



## Impact of climate change in the epidemiology of vector-borne diseases in domestic carnivores

**Author(s):** Beugnet F, Chalvet-Monfray K  
**Year:** 2013  
**Journal:** Comparative Immunology, Microbiology and Infectious Diseases. 36 (6): 559-566

### Abstract:

Vector-borne diseases are medically important in humans and animals but were long considered tropical and known to first affect production animals. This is no longer true and we can see today that they are common in domestic animals and that they are also present in temperate countries, especially in Europe. In recent years, an increase in the diagnosis of vector borne diseases among humans and animals has been observed, which may partly due to the development of diagnostic tools. Their study requires exchanges and collaborations between the many actors involved, especially since the epidemiology seems to be constantly evolving. The veterinary practitioner is the first one to notice the emergence of cases and to implement prevention measures. He also acts as a sentinel to alert epidemiologists. Many factors can explain the epidemiological changes, i.e. all human factors, such as the increase in commercial transportation, but also owners traveling with their pet during the holidays, the development of "outdoor" activities, the increase of individual housings with gardens; to these human factors must be added the ignorance of the risks, linked to animals in general and to wildlife in particular; then the environmental changes: forest fragmentation, establishment of parks; the increase of wild mammal populations (deer, carnivores, rodents, etc.); finally, climate changes. Climate change is a reality which may explain the increase of density of arthropod vectors, but also of their hosts, changes in periods of activity and variations in geographical distribution. The authors show the proof of the climate modifications and then explain how it has an impact in Europe on ticks, mosquitoes, sandflies and even fleas. They conclude on the practical consequences for veterinary practitioners, especially with the diagnosis of parasitic diseases or diseases in areas where they usually do not occur. However, not any epidemiological modification should be linked to climate change, since many other factors are involved and often even overriding.

**Source:** <http://dx.doi.org/10.1016/j.cimid.2013.07.003>

### Resource Description

#### Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

#### Exposure :

weather or climate related pathway by which climate change affects health

# Climate Change and Human Health Literature Portal

Temperature

**Temperature:** Fluctuations

**Geographic Feature:** ☒

resource focuses on specific type of geography

None or Unspecified

**Geographic Location:** ☒

resource focuses on specific location

Non-United States

**Non-United States:** Europe

**Health Impact:** ☒

specification of health effect or disease related to climate change exposure

Infectious Disease

**Infectious Disease:** Vectorborne Disease

**Vectorborne Disease:** Flea-borne Disease, Fly-borne Disease, Mosquito-borne Disease,  
Tick-borne Disease

**Mitigation/Adaptation:** ☒

mitigation or adaptation strategy is a focus of resource

Adaptation

**Resource Type:** ☒

format or standard characteristic of resource

Review

**Timescale:** ☒

time period studied

Time Scale Unspecified